

REMARKS

The Examiner rejects claims 1-14 in the subject application. Claims 1-14 (1 independent claim; 14 total claims) remain pending in the application.

The Examiner objects to the title of the invention and suggests an appropriate title. Applicant has amended the title as suggested by the Examiner.

Support for the various amendments may be found in the originally filed specification, claims, and figures. For example, support for the amendment to the title can be found at page 1 (lines 4-9) of the Subject Application (as filed). No new matter has been introduced by these amendments. Reconsideration of this application is respectfully requested.

35 U.S.C. § 102 REJECTIONS

The Examiner rejects claims 1-12 and 14 under 35 U.S.C. § 102(e) as allegedly being anticipated by Katayama (U.S. Patent No. 5,915,066, issued June 22, 1999, assignee is Kabushiki Kaisha Toshiba). Applicant respectfully traverses the rejection.

Katayama discloses a disk player for an optical disk on which data blocks having video data and audio data with multi-audio channels are recorded. The player includes an audio channel selector 16 for selecting (from the multi-audio channels) a specific audio channel specified by a system controller 15 via user input. The player includes a gain-controlled amplifier 18 whose gain is set by a gain control signal K supplied from the system controller 15.¹

In Figure 4, Katayama discloses that when an audio channel switching instruction is input by a user (at t10), the system controller 15 gradually reduces the gain of the gain controller 8 from "1" to "0" from time t10 to t20. As a result, the audio output of audio channel 1 fades out. When the audio output of audio channel 1 becomes substantially zero (i.e. gain of "0") (at t20), the system controller 15 outputs a switching instruction for switching from audio channel 1 to audio channel 2. Then, the data input to gain controller 18 is switched from audio channel 1 to audio channel 2. Simultaneously (at t20), the system controller 15 gradually increases the gain of the

¹ Katayama, Abstract and Figure 9.

gain controller 18 from "0" to "1" from time t20 to t30.² Katayama discloses that the advantage of this is that audio output switching between different audio channels 1 and 2 can be performed without generating noise through the fade-in or fade-out of the corresponding audio outputs.³

But Katayama fails to disclose "a mute section for muting the first audio signal which is output from the audio signal switch section when the audio signal switch section switches the second audio signal to the first audio signal" as recited in claim 1 (and claims 2-12 and 14, which variously depend from claim 1) (emphasis added). Significantly, Katayama fails to disclose "muting the first audio signal...when the audio signal switch section switches the second audio signal to the first audio signal" as recited in claim 1.

An exemplary advantage of this claimed limitation is that the audio and video recording and reproduction apparatus (usable to reproduce audio signals having different volume levels) prevents an audio signal having a different volume level from the previously reproduced audio signal from being output. For example, this prevents the user from feeling uncomfortable.⁴ Katayama fails to recognize this advantage, and consequently, fails to address it.

First, Katayama fails to disclose "muting the first audio signal" as recited in claim 1.

Second, Katayama fails to disclose "muting the first audio signal...when the audio signal switch section switches the second audio signal to the first audio signal" as recited in claim 1. Katayama fails to disclose the audio signal that is to be output after switching is the audio signal being muted. On the contrary, in Katayama, when the system controller 15 outputs a switching instruction for switching from audio channel 1 to audio channel 2 (i.e., t20), the system controller 15 gradually increases the gain of the gain controller 18 from "0" to "1" (from time t20 to t30), which fades-in the audio output of audio channel 2 is started.⁵ As such, Katayama merely discloses a fade-in or fade-out of the corresponding audio outputs and the audio output of audio channel 2 immediately fades-in when the system controller 15 outputs a

² Katayama, column 7, lines 30-48.

³ Katayama, column 7, lines 49-51.

⁴ Subject Application (as filed), page 4, lines 19-25.

switching instruction. In this way, Katayama teaches away from "muting the first audio signal...when the audio signal switch section switches" as recited in claim 1.

In Figure 5 of Katayama, in addition to the fade-in or fade-out of the corresponding audio outputs, a mute state is set during the reproduction period from t18 to t20. The fade-in of the audio output of audio channel 2 is started at the reproduction start timing t20.⁶ More specifically, in Katayama, a muted state simply existed after the audio output of audio channel 1 completes fading-out. In Figure 5 of Katayama, the muted state occurs before the audio channel switch signal is sent from the system controller 15 to the audio channel selector 16, so that Katayama teaches away from "muting the first audio signal...when the audio signal switch section switches the second audio signal to the first audio signal" as recited in claim 1.

In Figure 6 of Katayama, instead of fading-in or fading-out, a mute state is set for the audio output of audio channel 1 during the reproduction period (from t10 to t20) when an audio channel switching instruction is generated at t10. Subsequently, the audio output of audio channel 1 is output at t20 to solve the problem of noise.⁷ In Katayama, the point in time at which the system controller 15 outputs a switching instruction for switching from audio channel 1 to audio channel 2 to audio channel 16 is always at t20 in Figures 4-6. Although an audio channel switching request is input by the user at t10, the system controller 15 does not output a switching instruction to the audio channel selector 16 until at time t20.⁸ More specifically, in Figure 6 of Katayama, it is the audio output of audio channel 1 that is being muted from t10 to t20 (see the diagonal dashed-line in Figure 6 wherein the audio channel 1 block is shown to be output as the audio output of channel 1 and also the audio channel being muted after t10). After the muted state (i.e., after t20), the system controller 15 outputs a switching instruction for switching from audio channel 1 to audio channel 2. As such, the muted state occurs before the audio channel switch signal is sent from the system controller 15 to the audio channel selector 16. Accordingly, Katayama fails to teach or suggest "a mute section for muting the first audio signal...when the audio signal switch

⁵ Katayama, column 7, lines 30-48.

⁶ Katayama, column 7, lines 57-67.

⁷ Katayama, column 8, lines 1-9.

section switches the second audio signal to the first audio signal" as recited in claim 1.

Thus, Katayama fails to teach, advise, or suggest one or more of the claimed elements, so that claims 1-14 are patentable over this reference.

35 U.S.C. § 103 REJECTIONS

The Examiner rejects claim 13 under 35 U.S.C. §103(a) as allegedly being unpatentable over Katayama.

Based on the above discussion of claim 1 and the Katayama reference, claim 13 (which variously depends from claim 1) is also patentable over this reference. Applicant respectfully requests withdrawal of this rejection.

CONCLUSION

Applicant respectfully submits that the present application is in condition for allowance. Reconsideration of the application is thus requested. Applicant invites the Office to telephone the undersigned if he or she has any questions whatsoever regarding this Response or the present application in general.

Respectfully submitted,

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⁸ Katayama, column 7, lines 30-48.